

**APPARATUS FOR POLISHING A SEMICONDUCTOR WAFER**  
**AND METHOD THEREFOR**

Abstract of the Disclosure

5           An apparatus for polishing a wafer comprises a supporting portion having an  
abrasive pad disposed thereon, and a polishing head disposed over the abrasive pad. The  
polishing head comprises a carrier having at least two fluid passages, a retainer ring  
disposed on a lower edge of the carrier, forming a space for receiving the wafer, a  
supporter disposed in the carrier, and a flexible membrane disposed to be in contact with  
10 the wafer. The supporter has an upper surface portion, a lower surface portion, a plurality  
of first holes, a plurality of second holes, and a first chamber. The upper surface portion  
of the supporter forms a second chamber along with an inner surface of the carrier. The  
second chamber is in communication with one of the two fluid passages of the carrier and  
the second holes are formed in a lower surface portion of the supporter to communicate  
15 with the second chamber. The first chamber is in communication with the other one of the  
two fluid passages and the first holes are formed in the lower surface portion of the  
supporter to communicate with the first chamber. The lower surface portion of the  
supporter has a flat surface and a chamfered or rounded edge. The membrane disposed to  
enclose the lower surface portion of the supporter has a plurality of third holes formed at  
20 positions corresponding to the first holes to absorb and hold the wafer by vacuum.